Welding ITAG: Documentation of Credential and Alignment

Credential Name:	AWS D1.1 1" Plate 3G and 4G SMAW
Credential Type:	☑ Certification ☑ Qualification ☐ License
Issuer of Credential:	American Welding Society or other Qualification Testing Facility
Frequency of Updates:	As per AWS, every 6 months unless actively using the process in the field of welding
Exam(s) Required:	Practical welding test
Additional Requirements:	
Current CTAG/TAG: (if applicable)	No current applicable CTAG/TAG
Description of content to be evaluated and aligned: Proper use of machine settings, material prep, weld fitment, visual acceptance criteria, and destructive testing according to AWS D1.1 Structural Welding Code Latest Edition. The testing position will be 3G vertical up and 4G overhead.	
How long after attainment can credit be awarded?	Indefinitely, as long as the process has been used and verified within the last 6 months
How can receiving institutions verify credential attainment?	Provide an up-to-date continuity record or wallet card. The document must be obtained from an employer, Qualification Testing Facility, an Accredited Test Facility, or the American Welding Society

Course Name: Basic and Advanced Shielded Metal Arc Welding (SMAW)

Credit Hours: 6

Course Description: These courses cover introductory and advanced welding concepts of design, set-up, trouble shooting, and the techniques to produce acceptable fillet and groove welds. Focus is on flat, horizontal, vertical, and overhead positions required to pass a 3G and 4G welder Certification or Qualification test using the SMAW process.

Upon completion of this two-course sequence, students will be able to:

Postsecondary Learning Outcomes	Content from Credential
1. Set the machine controls for the transformer, rectifier, and motor generator power sources required to produce a fillet and groove weld in the vertical and overhead positions.	Students will demonstrate proficiency and understanding on setting essential variables on a welding machine from a WPS (welding procedure specifications) in order to complete an AWS D1.1 Structural Welding Code 3G Plate Test and 4G Plate Test.
2. Produce vertical up (3F) and overhead (4F) welds to AWS standards, using E7018 electrodes, while employing proper techniques and settings.	AWS states a 3G Plate Test and 4G Plate Test covers all electrodes and 1F, 2F, 3F, and 4F positions.

3. Produce vertical fillet (3F) welds to AWS standards, using E6010 electrodes, while employing proper techniques and settings.	AWS states a F-4 Group (low hydrogen) 3G Plate Test and 4G Plate Test covers all electrodes and 1F, 2F, 3F, and 4F positions.
4. Produce vertical up and overhead 1" V-Groove test plates, using E7018 electrodes.	AWS states a F-4 Group (low hydrogen) 3G Plate Test and 4G Plate Test cover unlimited plate thickness for testing.
5. Demonstrate an understanding of the difference in techniques used when welding in the vertical and overhead welding positions compared to the flat and horizontal positions.	Welders are taught Vertical and Overhead Weld techniques. Assessment of these techniques is included in the 3G Plate Test and 4G Plate Test. Competency in flat and horizontal positions is expected when a student passes the 3G Plate Test and 4G Plate Test.
6. Demonstrate the ability to use standard measuring instruments to lay-out a component part, or assemble a weldment, based on a shop drawing or print.	D1.1 plate tests require a specific layout as documented by the relevant prints.
7. Demonstrate and understanding of the tests used by AWS to qualify welders for making welds in the 3G and 4G positions.	A qualified welder must understand the specifics of a plate test, the testing criteria, and the relevant weld procedures for the 3G and 4G positions.
8. Demonstrate proficiency in the SMAW process in the 3F, 4F, 3G, and 4G positions by producing weld test plates. These plates must meet the applicable AWS bend test requirements as taken from the plates prepared and tested by the instructor.	This credential/qualification covers the 3G Plate Test and 4G Plate Test standard. As per AWS D1.1, the 3G Plate Test and 4G Plate Test also cover 1G, 2G, 1F, 2F, 3F, and 4F positions.